

IN THE SPECIFICATION

Please amend paragraphs and headings of the specification, as shown below, in which deleted terms are shown with strikethrough and/or double brackets, and added terms are shown with underscoring. Also, please add new paragraphs [000.1] and [0106], and a heading associated with new paragraph [000.1] as shown below.

New Paragraph [000.1] and Associated Heading

CROSS-REFERENCE TO RELATED APPLICATIONS

[000.1] The present application is a U.S. National phase of, and claims priority based on PCT/JP2005/001490 (published as WO 2005/075084 A1), which, in turn, claims priority from Japanese patent application 2004-033546, filed February 10, 2004 and Japanese patent application 2004-106782, filed March 31, 2004. The entire disclosure of each of the referenced priority documents is incorporated herein by reference.

Paragraph [0013] In order to attain this object, a garbage disposal apparatus according to ~~claim 1~~ a first aspect of the invention comprises a garbage disposition port; a storage chamber communicating with the garbage disposition port to store uncrushed garbage therein and into which flushing water is supplied; a crushing section provided adjacent to the storage chamber and having a crushing ~~means~~ mechanism and a clearance for passing therethrough the garbage crushed by the crushing ~~means~~ mechanism; a discharge section provided in communication with the clearance and having a discharge port for externally discharging the garbage crushed by the crushing section; a driving ~~means~~ mechanism for driving the crushing ~~means~~ mechanism; a ~~means~~ mechanism for controlling the amount of garbage passing through the clearance per unit of time; and a ~~means~~ mechanism provided at the discharge section or on the downstream side of the discharge section for controlling the amount of garbage discharged within the discharge section or on the downstream side of the discharge section.

Paragraph [0014] As described above, by disposing a ~~means~~ mechanism for controlling the discharge amount of garbage at a discharge section or on the downstream side of the discharge section, garbage containing long fibrous materials does not clog a discharge port or a trap continuing into this discharge port and thus, crushing and discharging processes can be performed in a comparatively short period of time.

Paragraph [0015] For example, if the ~~means~~ mechanism for controlling the amount of garbage passing through the clearance per unit of time is driven in synchronization with the ~~means~~ mechanism for controlling the amount of garbage discharged within the discharge section or on the downstream side of the discharge section so as to bring the concentration of crushed garbage in the discharged water close to a steady value for a predetermined time from the start to the end of discharge, the concentration of garbage discharged in the initial stage does not become high (thick) and clogging can be prevented. The crushed garbage concentration means the amount of the crushed garbage discharged included in the discharged water per unit of time.

Paragraph [0016] Further, a crush control ~~means~~ mechanism for controlling the drive condition of the crushing ~~means~~ mechanism is available as the ~~means~~ mechanism for controlling the amount of garbage passing through the clearance per unit of time. More specifically, a motor control section controls the speed of revolution and the time of revolution of the crushing ~~means~~ mechanism.

Paragraph [0017] The crushing ~~means~~ mechanism can be composed of a turntable adapted to rotate by a motor and a rotary blade mounted on the turntable. The rotary blade can be a hammer which is swung radially outward (on the outer diameter side in the radial direction) by centrifugal force. In this manner, by mounting the rotary blade on the turntable, garbage can be efficiently crushed between the rotary blade and a fixed blade provided on the inner wall of a disposer.

Paragraph [0018] The ~~means~~ mechanism for controlling the amount of garbage passing through the clearance per unit of time is an automatic feed water ~~means~~ mechanism for adjusting

(increasing or decreasing) the amount of flushing water supplied to the storage chamber. In this manner, by providing the automatic feed water ~~means~~ mechanism, the amount of flushing water supplied can be increased, for example, in the initial stage, to keep the concentration of the garbage low.

Paragraph [0019] The ~~means~~ mechanism for controlling the amount of garbage passing through the clearance per unit of time can be a clearance adjusting ~~means~~ mechanism for varying the size of the clearance. Specifically, a member which is swung outward by the centrifugal force to narrow the clearance can be provided on the outer periphery of the turntable.

Paragraph [0020] Further, the ~~means~~ mechanism for controlling the amount of garbage passing through the clearance per unit of time can be a garbage disposition amount regulating ~~means~~ mechanism for regulating the amount of garbage supplied to the crushing section which is provided in the storage chamber, and a control ~~means~~ mechanism for controlling this garbage disposition amount regulating ~~means~~ mechanism. By controlling the garbage disposition amount regulating ~~means~~ mechanism so as not to provide a large amount of garbage on the downstream side at one time, clogging can be controlled.

Paragraph [0021] Still further, the ~~means~~ mechanism for controlling the amount of garbage discharged within the discharge section or on the downstream side of the discharge section can be an impeller adapted to rotate integrally with or separately from the crushing ~~means~~ mechanism. The discharge amount can be accelerated by the provision of the impeller to achieve shortening of the crush and discharge processing time. By synchronizing the drive of the impeller with that of the ~~means~~ mechanism for controlling the amount of garbage passing through the clearance, so as to increase the discharge amount of garbage within the discharge section or on the downstream side of the discharge section in response to the decrease in the amount of garbage passing through the clearance, homogenization in the crushed substance concentration is achieved and thus, clogging can be prevented.

Paragraph [0023] The ~~means~~ mechanism for controlling the amount of garbage discharged within the discharge section or on the down stream side of the discharge section can be a water supply ~~means~~ mechanism for emitting a jet of water toward the discharge port. If the emitting direction of a jet of water by this water supply ~~means~~ mechanism is the direction to accelerate the flow to the discharge port, the discharge effect improves. In particular, if the water supply ~~means~~ mechanism is used in conjunction with the impeller, the discharge effect further improves.

Paragraph [0024] By synchronizing the water supply ~~means~~ mechanism with the ~~means~~ mechanism for controlling the amount of garbage passing through the clearance so as to increase the amount of garbage discharged within the discharge section or on the downstream side of the discharge section in response to the decrease in the amount of garbage passing through the clearance, homogenization in the crushed substance concentration is achieved and thus, clogging can be prevented.

Paragraph [0025] Further, the ~~means~~ mechanism for controlling the amount of garbage discharged within the discharge section or on the downstream side thereof can be a water supply ~~means~~ mechanism for emitting a jet of water from a predetermined direction to a trap section on the downstream side of the discharge section. Since the trap section is provided with the water supply ~~means~~ mechanism, it is not only effective for discharge acceleration, but also for prevention of clogging.

Paragraph [0026] By synchronizing the water supply ~~means~~ mechanism with the ~~means~~ mechanism for controlling the amount of garbage passing through the clearance so as to increase the amount of garbage discharged within the discharge section or on the downstream side of the discharge section in response to the decrease in the amount of garbage passing through the clearance, homogenization in the crushed substance concentration is achieved and thus, clogging can be prevented.

Paragraph [0027] Referring to an operation pattern of the garbage disposal apparatus

according to the present invention, the crush control ~~means~~ mechanism for controlling the drive condition of the crushing ~~means~~ mechanism is a motor control section for controlling the speed of revolution and the operating time of the crushing ~~means~~ mechanism, and the control by this motor control section is a variable operation whereby stoppage, low speed revolution. or high speed revolution are rotatingly repeated.

Paragraph [0037] Fig. 3 is a schematic view of the disposer showing an example in which an opening adjusting means or mechanism is used as a means to regulate the amount of garbage disposition;

Paragraph [0038] Fig. 4 is a schematic view of the disposer showing an example in which a pre-crushing means or mechanism is used as a means to regulate the amount of garbage disposition;

Paragraph [0039] Fig. 5 is a schematic view of the disposer showing an example in which an automatic feed water means or mechanism is provided with a water sensor;

Paragraph [0040] Fig. 6 is a schematic view of the disposer showing an example in which the automatic feed water means or mechanism is a tornado-type water feeder;

Paragraph [0041] Figs. 7 (a) and (b) are schematic views of the disposer showing an example in which a centrifugal fin is used as a means or mechanism for controlling the amount of garbage passing through a clearance per unit of time;

Paragraph [0042] Fig. 8 is a perspective view showing an example in which an impeller is used as a means or mechanism for controlling the amount of garbage discharged within a discharge section or on the downstream side of the discharge section;

Paragraph [0045] Figs. 11 (a) through (e) are views describing examples in which a water

supply means or mechanism (i.e., a discharge section jet) for emitting a jet of water is used as a means for controlling the amount of garbage discharged;

Paragraph [0046] Figs. 12 (a) through (c) are views describing examples of another water supply means or mechanism (i.e., a discharge section jet);

Paragraph [0047] Fig. 13 is a view describing an example in which a trap section is provided with a water supply means or mechanism for emitting a jet of water;

Paragraph [0048] Fig. 14 is a view describing an example in which the shape of the trap section serving as a means or mechanism for controlling the amount of garbage discharged is changed;

Paragraph [0094] Figs. 18a through 21 are views showing ~~[[an]]~~other embodiments of an operation pattern, respectively. In the embodiment as shown in Fig. 18a, for the motor, the ON interval in the middle of operation is 3 seconds, a comparatively long ON state of 15 seconds is provided in the second half of operation, and finally, an ON state of 1 second is conducted twice. The feed water amount is increased only immediately after the start of operation. In this manner, by increasing the feed water amount immediately after the start of operation, the garbage concentration can be lowered to prevent clogging. Finally, a short variable operation is conducted to prevent the garbage from being deposited in the discharge port.

New Paragraph [0106] Although there have been described what are the present exemplary embodiments of the invention, it will be understood that variations and modifications may be made thereto within the spirit and scope of the appended claims.